

REMARKS

Claims 1-10 are pending in this application. By this Amendment, claim 1 is amended and claims 11-13 are canceled. Support for claim can be found, at least, in Fig. 1. No new matter is added.

The Office Action objects to claims 11 and 12 for informalities. Claims 11 and 12 have been canceled, thus this objection is moot.

The Office Action rejects claims 1-13 under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. This rejection is respectfully traversed.

The Office Action rejects claims 1-13 because it asserts the specification does not describe the formula " $(c/2) \leq a \leq \underline{2c}$ " recited in claim 1. Specifically, the Office Action asserts that the specification only discloses the formula " $(c/2) \leq a \leq 5c$ " and that $5c$ is not equivalent to $2c$.

For the record, Applicants note that the MPEP explicitly states that if the specification discloses a range for a variable, and the claim is amended to recite a narrower range encompassed by the original range, the narrower range is still described. See MPEP §2163.05(III) stating that a description of a range of 25%-60% of a material in an alloy supported a claim reciting 35%-60%.

However, in the interests of expediting prosecution, claim 1 has been amended to recite " $(c/2) \leq a \leq 5c$." Thus, withdrawal of the rejection is respectfully requested.

The Office Action rejects claims 1-3, 5-7 and 10 under 35 U.S.C. §102(a) or §102(e) over U.S. Patent Publication No. 2002/0131918 to Nelson et al. ("Nelson"). The Office Action also rejects claims 1-3, 5-7 and 10-13 under 35 U.S.C. §103(a) over Nelson. These rejections are respectfully traversed.

Claim 1, as amended, now recites that "a majority of the unit electrodes [are] held sandwiched by a pair of holding members, respectively, at the at least one end face, where outer edges of both the holding members and an outer edge of the electrode together form a substantially planar outer edge of the plasma generating electrode." Nelson does not disclose this feature.

Nelson explicitly denies this type of configuration in paragraphs [0011]-[0015]. Specifically, in paragraph [0011] Nelson describes some alleged problems that may arise during the assembly of "stacked planar reactors." The claimed invention belongs to the category that Nelson defines as a stacked planar reactor. Nelson explains in paragraph [0015] that it developed an "edge-connected non-thermal plasma reactor" to solve some problems that are allegedly inherent to stacked reactors. Figures 9 and 10 of Nelson help illustrate the concept. In Nelson, the alleged electrodes (26, 28) are held by a structural backplane 16, which holds all of the electrodes and forms the entirety of the outer surface of the reactor.

By contrast, claim 1 now recites that the unit electrodes are sandwiched by pairs of holding members. Claim 1 further recites that the outer edge of the holding members and the electrodes together form the outer edge of the entire plasma generating electrode. Nelson does not disclose such a structure. As such, Nelson does not disclose each and every feature of claim 1, as amended.

Furthermore, Nelson does not suggest these features either. Nelson specifically notes that its invention is designed to solve alleged problems with a stacked planar reactor. As such, it would not be obvious to modify Nelson to effectively become a stacked planar reactor. For at least these reasons, the rejection of claim 1 lacks merit.

Claim 2 recites a distance "b." Nelson discloses a small setback 39 that the Office Action asserts is analogous to b. The Office Action further asserts that Nelson discloses that b meets the recited equation of " $2c \leq b \leq 10c$." However, this analogy is flawed because

Nelson explicitly notes that the small setback 39 is dependent on whether the reactor is a stacked design or an edge connected design. See paragraphs [0010] and [0042] of Nelson.

Specifically, Nelson explains that in stacked reactors it is necessary to provide a separation (of about 19 mm) between the edge of the electrode and the edge of the dielectric layer to account for problems inherent to the stacking method. See paragraph [0010] of Nelson. Nelson further explains that an advantage of its edge connected design a much smaller setback 39 can be used. The Office Action uses the values associated with this smaller value to demonstrate that it meets the requirements of the above equation.

However, Nelson itself acknowledges that the small setback of Nelson cannot be used in a stacked reactor. As such, the small setback 39 cannot be used to demonstrate that Nelson discloses the recited equation of $2c \leq b \leq 10c$ in a device where the majority of the unit electrodes are held sandwiched by a pair of holding members, respectively, at the at least one end face, where outer edges of both the holding members and an outer edge of the electrode together form a substantially planar outer edge of the plasma generating electrode. Thus, the rejection of claim 2 also lacks merit.

Accordingly, withdrawal of the rejection of claim 1, and claims 2, 3, 5-7 and 10 depending therefrom, is respectfully requested.

Claim 4 is rejected under 35 U.S.C. §103(a) over Nelson in view of U.S. Patent Publication No. 2002/0131918 to Kellogg et al. ("Kellogg"). Claim 8 is rejected under 35 U.S.C. §103(a) over Nelson in view of U.S. Patent No. 6,423,190 to Hemingway et al. ("Hemingway"). Claim 9 is rejected under 35 U.S.C. §103(a) over Nelson and Hemingway in view of U.S. Patent Publication No. 2005/0229564 to Okubo et al. ("Okubo") These rejections are respectfully traversed.

Claims 4, 8 and 9 depend from claim 1. As discussed above, Nelson fails to disclose or suggest the features of claim 1. Furthermore, Kellogg, Hemingway and Okubo all fail to

supply the subject matter missing in Nelson. Accordingly, claims 4, 8 and 9 are in condition for allowance based on their dependence from claim 1, as well as for the separately patentable subject matter they recite. Thus, withdrawal of the rejections of claims 4, 8 and 9 are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-13 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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